REMARKS

The present invention, for example, as defined in U.S. Patent Publication 2007/0126333 addresses and minimizes the amount of potential color drift in the vicinity of a central upper and lower end portions of a display screen as well as in the vicinity of the screen corners. See Paragraphs 0014 and 0015.

The present inventors recognize that conventional efforts to improve color drift in the vicinity of the corners of a display screen did not necessarily address a problem of a color drift in the vicinity of the central upper and lower end portions of the screen, due to the distribution and influence of magnetic flux. The present invention provides a design wherein the magnetic flux generated would be under the influence of a magnetic pull substantially over a length that corresponds to the height of an obtuse-angle isosceles triangle. This permitted a sufficient integration so that the amount of color drift in the vicinity of the upper, central and lower end portions is further reduced while also addressing color drift at the corners of a rectangular display screen. This effect has been graphed in Figure 6, and is explained in Paragraph 0065 of our present specification.

Thus, the impact of external magnetic fields that would produce an influence in a color cathode tube in the tube axis direction, is specifically addressed, not only at the corners, but also at intermediate positions between the corners, as shown for example, in the schematic graph of Figure 7 and the Table of Figure 8.

The advantages of such present invention are started in Paragraph 0084, such as increased brightness and a low cost shadow masks.

The Office Action rejected Claims 1-6 and 8 as being completely anticipated by the *Murai et al.* (U.S. Patent Publication 2001/0026119). The *Murai et al.* reference is also owned

by the assignee of the present application and represented a collaborative invention with one of the present inventors, Shigeo Nakatera. It also addressed the effects of terrestrial magnetism and specifically sought to improve the performance characteristic at NS points, for example as shown in Figure 13.

Thus, it was proposed to have a high permeability at the vertical scan and a relatively lower permeability for the internal magnetic shield in the horizontal scan. See Paragraphs 0023-0026.

> "'[T]he dispositive question regarding anticipation is whether one skilled in the art would reasonably understand or infer from the prior art reference's teaching that every claim [limitation] was disclosed in that single reference.' *Dayco Prods., Inc. v. Total Containment, Inc.*, F.3d 1358, 1368 (Fed. Cir. 2003).

As can be appreciated, to have an anticipatory rejection under 35 U.S.C. §102(b), each element in the claims must be found in the cited reference. In this regard, applicant, in an attempt to define the perimeter configuration of the opening adjacent the electron gun for a magnetic shield, has utilized their rights to define the opening and the perimeter configuration in the terminology of a mountain that raises towards the electron gun over an entire length.

The Office Action referred specifically in the *Murai et al.* reference to the configuration shown, for example, in Figure 6A and Figure 10. As can be seen, however, Figure 6A discloses a long edge portion with a central trapezoidal configuration having a flat horizontal central portion forming a majority of the length of each long edge side, and a minor sloping portion that then continues with flat horizontal side portions until it interfaces with the respective short edges. There is clearly no configuration that rises towards the central electron gun over an entire length thereof.

Referring to Figure 10, a center of each long edge has a triangular extension that then extends for a substantial horizontal flat continuation on either side of the long edge. It would appear that at least 40% of the long edge in this configuration does not rise toward the electronic gun but rather lies in a parallel plane traversing the axis of the tube and electronic gun.

Referring specifically to independent Claim 1, the last phrase in the claim states as follows:

> "and each long edge is in the shape of a mountain that rises toward the electron gun over an entire length thereof."

The present invention addresses refinements in a relatively crowded field by reducing the amount of color drift in the vicinity of a central, upper and lower end portions of the panel, as well as the conventional concerns of reducing the amount of color drift in the vicinity of the panel screen corners. It does so in a unique structural configuration that is neither taught nor suggested by the cited prior art.

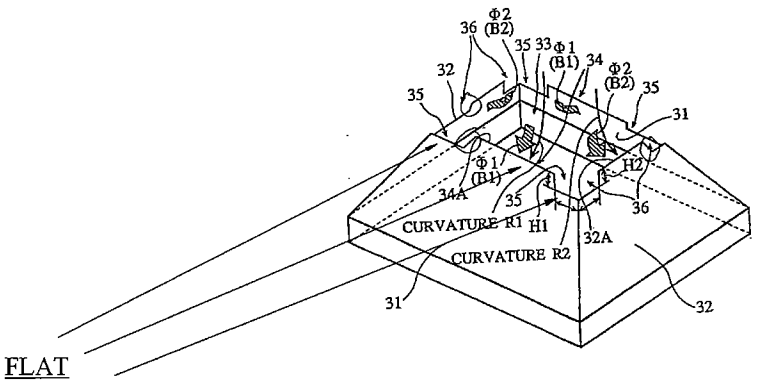
The Office Action specifically cited Paragraph 0088 as follows:

> The center of the extension may be triangular having a cute [sic] angle, as shown in FIG. 10. With this construction, the magnetic flux is absorbed more effectively in this portion.

As can be seen, however, Figure 10 has only a triangle in a limited central portion of a long edge, and has a pair of flats that do not have a rising slope connected at either side of the triangular portion. Additionally, the first embodiment of Figure 1 shown more specifically at Figure 2, has primarily a pair of side flats with a stepped up central flat along each long edge.

A similar arrangement is shown in Figure 6A, as can be seen from the following:

FIG. 2



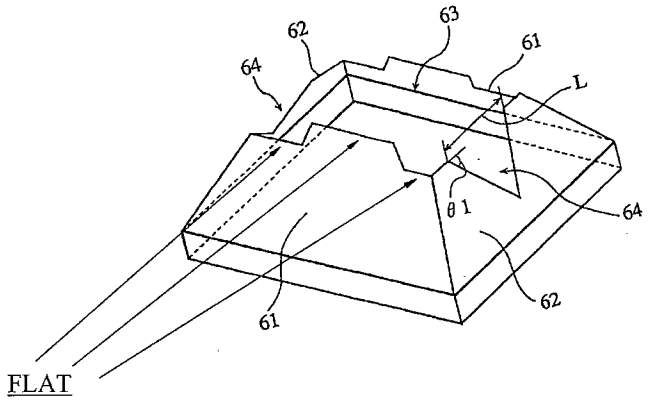
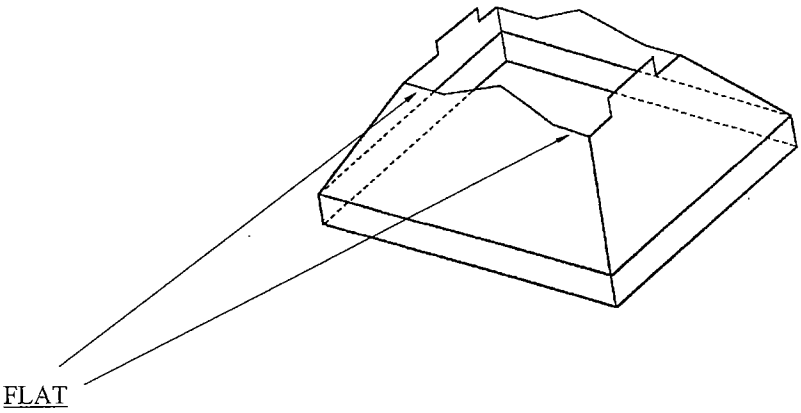


FIG.6A

FIG.10

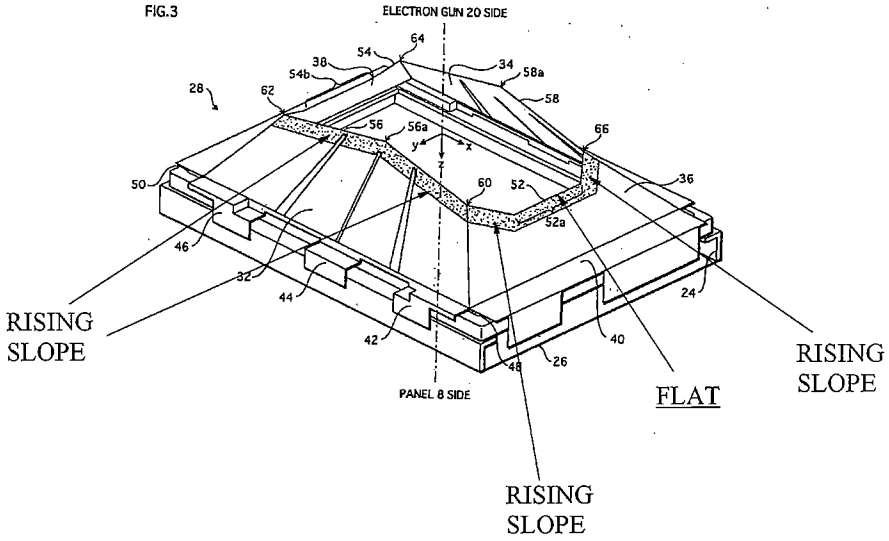


Our current Claim 1 reads on our present invention, including the embodiment of Figure 3, where a rising slope extends across an entire long edge. In fact, the short side plates 36 and 38 have a central flat edge 52 and 54 forming a valley with rising slopes extending to a connection with the respective long edge, to provide basically the shape of an inverted trapezoid. The edges 56 and 58 are the long side plates 32 and 34 and form the long edges described as follows.

> On the other hand, edges 56 and 58 of long side plates 32 and 34 on the side of the electron gun 20 (hereinafter, the edges are referred to as "long edges") are formed in the shape of a mountain, more specifically in the shape of an obtuse-angled isosceles triangle.

Finally, as can be seen, both the short edges 32 and 34 and the long edges 56 and 58 as described in Paragraph 0052, are continuous to each other without steps formed at the junctions and provide an integral perimeter about the opening for the electron gun.

PRESENT INVENTION



The invention recited in Claim 1 of the present application is directed at an internal magnetic shield, which is substantially in a shape of a hollow truncated pyramid, where "a first

long edge and a second long edge are arranged to face each other across the small diameter opening, and each long edge is in a shape of a mountain that rises toward the electron gun over an entire length thereof."

The reason to adopt this structure is described with reference to Figure 3 above. The magnetic flux near the center of a long edge 56 (58) is bent vertically upward (downward) in the Y axis direction under the influence of magnetic poles (indicated by half tone dot meshing). Furthermore, the long edge 56 (58) is in a shape of a mountain (in the example shown in the drawing in the shape of an obtuse-angled isosceles triangle) that rises toward the electron gun 20 over an entire length thereof. Accordingly, the magnetic flux is under the influence of the magnetic poles in the tube axis direction (Z-axis direction), substantially over a length that corresponds to the height of the obtuse-angled isosceles triangle. Accordingly, among the magnetic flux that enters the internal magnetic shield, the magnetic flux density (Bz) in the tube axis direction decreases and the magnetic flux density (By) in the vertical direction increases greatly, and the amount of color drifts in the vicinity of the central upper and lower end portions of the screen is reduced compared with the conventional one (with respect to the reduction in the amount of color drifts due to the decrease of Bz and increase of By, please refer to the U.S. Patent Application Publication No. 2007/0126333 of the present application, Paragraphs [0005] through [0010]).

By providing a structure where each long edge is in a shape of a mountain that rises toward the electron gun over an entire length thereof, the magnetic poles are formed substantially evenly over the entire length of each long edge, and the distance over which the magnetic flux is under the influence of the magnetic poles becomes longer. As a result, magnetic flux density (Bz) in the tube axis direction decreases and the magnetic flux density (By) in the vertical

direction substantially increases, and the amount of color drift in the vicinity of the central upper and lower end portions of the screen is reduced.

In the internal magnetic shield disclosed by *Murai et al.*, as shown in Figure 2 of the U.S. Patent Application Publication No. 2001/0026119 above, each long edge is structured such that a rectangular extension (hereinafter referred to as "mountain-like portion") 34, extending toward the deflection coil (the electron gun), is formed at a horizontal center thereof, and cuts (hereinafter referred to as "plane portion") 35 are formed on both sides of the mountain-like portion 34, in parallel to a plane perpendicular to the tube axis. This structure causes the magnetic fields to concentrate on the mountain-like portion 34 (see Paragraphs [0060] and [0061] of the U.S. Patent Application Publication No. 2001/0026119).

Also, each short edge is structured such that a mountain-like portion is formed at a center thereof, and cuts (hereinafter referred to as "plane portion") 36 are formed on both sides of the mountain-like portion. It is also structured with an aim that the magnetic fields concentrate on the mountain-like portion. Further, the mountain-like portion 34 of each long edge is set to be higher than the mountain-like portion of each short edge. With this structure, a difference is made between the short edges and the long edges in the amount of magnetic flux absorbed at the mountain-like portion (the amount of magnetic flux absorbed at the mountain-like portion 34 is increased), so that the magnetic fluxes entering near the centers of the long edges are bent vertically upward and downward. This structure is to prevent color drifts in the vicinity of the central upper end portions of the screen (see Paragraphs [0059] and [0062] of the U.S. Patent Application Publication No. 2001/0026119).

Plane portions are also formed adjacent both ends of each long edge as shown in the embodiments of Figure 6A and Figure 10 cited by the Office Action.

The Office Action also rejected Claim 7 as being obvious under 35 U.S.C. §103 over the *Murai et al.* publication in view of the Japanese Laid-Open Application 2003-187717. More specifically, the Japanese publication was cited to simply show a slit 16 in Figure 11. Actually, a large number of apparently rectangular cuts or slits extend across both the long edges and the short edges, and Figure 11 apparently includes a cap, item 17, that extends over the respective slits.

As can be seen, however, the actual perimeter surface of the long edges disclose a series of flats between each of the slits. In any event, this reference does not address the deficiencies of the *Murai et al.* reference disclosed above.

The newly drafted Claims 9-11 define the present invention without utilizing the terminology of a mountain, consistent with the above arguments.

In view of the above comments, it is believed that the present claims are in condition for allowance and an early notification of the same is requested.

If the Examiner believes a telephone interview will assist in the prosecution of this case, the undersigned attorney can be contacted at the listed phone number.

Very truly yours,

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